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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,938	07/24/2003	Sergey L. Dickey	2171-030	9898
22208	7590	11/18/2004	EXAMINER	
ROBERTS ABOKHAIR & MARDULA SUITE 1000 11800 SUNRISE VALLEY DRIVE RESTON, VA 20191			DAO, MINH D	
			ART UNIT	PAPER NUMBER
			2682	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/625,938	Applicant(s) DICKY, SERGEY L.	
	Examiner MINH D DAO	Art Unit 2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Somoza et al. (US 6,336,035) in view of Uhlik (US 6,760,599) and further in view of Markus (US 5,561,841).

Regarding claim 1, Somoza teaches a method for identifying signal sources in a multisource signal area comprising: detecting a plurality of signals from a plurality of base station towers in a coverage area; measuring plurality of signals from a plurality of locations in the coverage area; determining geographic coordinates of the plurality of locations; wherein the plurality of signals comprises a base station tower identifier that corresponds to a base station tower from which a particular signal originates; wherein measuring the plurality of signals from the plurality of locations of a given base station tower from a given location; and producing a geographical data base of signal components from the plurality of base station towers that is clear of co-channel interference and adjacent-channel interference (see col. 8, lines 37-57; col. 8, lines 58-

67; col. 9, lines 1-12). However, Somoza does not disclose measuring a relative signal delay that corresponds to a relative distance of a given base station tower from a given location. Uhlik, in an analogous art, teaches this limitation (see col. 12, lines 16-35; Table 4; col. 13, lines 34-48; col. 14, lines 16-34). Since the two cited references deal with measuring and collecting cell information and performance, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Uhlik to Somoza such that a relative distance of a given base station tower from a given location is measured by a relative signal delay, in order to have a simple and low cost way of determining the location of a mobile station.

Still regarding claim 1, the combination of the teachings of Somoza and Uhlik teaches timing relationship in terms of distance (see col. 13, lines 34-48 of Uhlik) but does not disclose creating timing relationships for the base station tower in the coverage area by creating at least one histogram of the relative signal delay. Markus, in an analogous art, teaches creating histogram that represents parameters which contribute to the network performance. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Markus to Uhlik and Somoza such that a histogram of the relative signal delay is created in order to be able to visually review the statistics of the network performance.

Regarding claims 2, 3 and 4, the combination of the teachings of Somoza, Uhlik, and Markus also teaches measuring of plurality of signals is accomplished in a multiple frame window (see col. 9, lines 59 and TABLE 3 of Uhlik).

Regarding claim 5, the combination of the teachings of Somoza, Uhlik, and Markus also teaches producing a reading of an absolute level of correlated power and relative time of arrival for each signal in the plurality of signals (see col. 12, lines 16-35; col. 13, lines 34-48, and Table 4 of Uhlik).

Regarding claim 6, the combination of the teachings of Somoza, Uhlik, and Markus teaches determining geographic coordinates for the plurality of locations comprises using a GPS system (see col. 11, lines 31-46 of Uhlik).

Regarding claim 7, the combination of the teachings of Somoza, Uhlik, and Markus teaches that base station towers are synchronized by a common core network (see col. 8, lines 58-67; col. 9, lines 1-12 of Somoza).

Regarding claim 8, the combination of the teachings of Somoza, Uhlik, and Markus teaches that base station towers have no appreciable drift relative to each other (see col. 8, lines 58-67; col. 9, lines 1-12 of Somoza).

Regarding claim 9, the combination of the teachings of Somoza, Uhlik, and Markus teaches measuring the plurality of signals from a plurality of locations comprises driving to the plurality of locations (see col. 8, lines 37-57 of Somoza).

Regarding claim 10, the combination of the teachings of Somoza, Uhlik, and Markus teaches that measuring plurality of signals without interrupting plurality of signals (see col. 8, lines 37-57 of Somoza).

Regarding claim 11, the claim has the same limitations as that of claim 1 and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 12, the combination of the teachings of Somoza, Uhlik, and Markus teaches single base station tower of the plurality of base station towers is used as a reference for the relative signal delay. (Reference Uhlik, see col. 12, lines 16-35; Table 4; col. 13, lines 34-48; col. 14, lines 16-34).

Regarding claim 13, the combination of the teachings of Somoza, Uhlik, and Markus teaches the method for identifying signal source as in claim 10, further comprising using the geographical data to analyze a signal in the coverage area to identify signal components (see col. 8, lines 37-57; col. 8, lines 58-67; col. 9, lines 1-12; also see entire reference of Somoza).

Regarding claim 14, the combination of the teachings of Somoza, Uhlik, and Markus teaches the method for identifying signal source as in claim 12, further comprising using the analysis is used to calculate at least one of frequency planning, co-channel interference, adjacent-channel interference, mapping of the signal and optimization of

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the signal (see col. 8, lines 37-57; col. 8, lines 58-67; col. 9, lines 1-12; see col. 16, lines 8-14 of Uhlik and also see entire reference of Somoza).

Regarding claim 15, the claim has the same limitations as that of claim 1 and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 16, the claim has the same limitations as that of claim 10 and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 10.

Regarding claims 17, 18 and 19, the claims have the same limitations as that of claims 2, 3 and 4 and therefore is interpreted and rejected for the same reason set forth in the rejection of claims 2, 3, and 4.

Regarding claims 20 and 21 the claims have the same limitations as that of claim 1 and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 22, the combination of the teachings of Somoza, Uhlik, and Markus teaches method of claim 20, further comprising querying the database for each of the time delays and identifying pairs of interfering base tower stations among the plurality of base tower stations (see col. 8, lines 37-57; col. 8, lines 58-67; col. 9, lines 1-12; also

see entire reference of Somoza; reference Uhlik, see col. 12, lines 16-35; Table 4; col. 13, lines 34-48; col. 14, lines 16-34).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH D DAO whose telephone number is 703-305-5589. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN C CHIN can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Minh Dao
Art Unit 2682
November 15, 2004 *MD*


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

11/15/04